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1 599 635

(54) IMPROVEMENTS IN OR RELATING TO SEATS

(71) We, CROSBY SPRINGS LIMITED, a British company of Fleet Lane, St. Helens, Merseyside, WA9 1SY, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

The present invention relates to seats.

Interior support members, or platforms, for seats are known which comprise a rubber sheet or an array of wires.

In manufacturing the seat the support member is attached to a frame of the seat, covered with a thick layer of foam rubber or the like, and the frame, support member and foam rubber layer are given a fabric, leather or plastics material covering to complete the upholstery.

The support member should give resilient support and if the member comprises a rubber sheet, this resilience is provided by the elasticity of the rubber itself, the sheet being attached to the seat frame by means of hooks. On the other hand, if the support member comprises an array of wires, the resilience is provided by a plurality of springs by means of which the support member is attached to the frame.

An object of the present invention is to provide an interior support member which is of simple construction.

According to the present invention there is provided a seat interior support member comprising a thermoplastic fabric web attached at its boundary to a heavy gauge wire frame by the fabric being folded, to enclose the frame, and welded to join the edge, after folding, to the web, and a plurality of resilient members each for attachment between the frame and a frame of the seat.

Preferably the wire frame is notched, bent, or otherwise suitably indented to provide a plurality of attachment points for respective one of said resilient members. The resilient members may be springs or loops of elastomeric material and may be attached to the wire frame along two or more edges of the fabric web. Alternatively the resilient members need only be attached to the wire frame along one edge of the fabric web if the opposite edge is attached to the seat frame, e.g. by stapling in the case of a wooden frame in the application of the invention to furniture. The wire frame may comprise two, three or four sides of a rectangle.

The present invention will hereinafter be further described by way of example with reference to the drawing which accompanied the provisional specification and which is a perspective view of an interior support member, in accordance with the invention, for a car seat, the support member being shown attached to part of a frame of the seat.

A support member 2 comprises a web 4 formed from woven nylon. The web 4 is attached at three of its edges to a wire frame 6 comprising a steel rod bent to form three sides of a rectangle. The wire frame 6 has a series of equally spaced kinks 8 on two opposite sides to which springs 10 may be attached. The nylon web 4 is attached to the wire frame 6 by folding the edge of the web around the frame and high frequency or friction welding the edge to the body of the web. Alternatively the edge may be attached to the body by heating the two regions in contact to cause fusion.

Each of the springs 10 is attached to a corresponding point on a frame 12 forming part of an inner frame of the car seat. Seating characteristics may be tuned by locating springs with predetermined spring rates. As an alternative to springs, thick elastomeric bandsmight be used as resilient members.

An advantage of the support member is that the web 4 allows the passage of moisture and moist air through the interstices between the warp and weft fibres of the web fabric. This is not the case, for example, in known support members comprising a rubber diaphragm. On the other hand, the interstices are sufficiently small for there to be negligible penetration of a foam rubber layer supported by the web. A futher advantage is that by using springs or elastomeric bands to provide the resilience, such resilience may be adjusted, if spfing tension adjusting means are provided, to suit the particular use of the support member.

WHAT WE CLAIM IS:-

1. A seat interior support member comprising a thermoplastic fabric web attached at its boundary to a heavy gauge wire frame by the fabric being folded, to enclose the frame, and welded to join the edge, after folding, to the web, and a plurality of resilient members each for attachment between the frame and a frame of the seat.

2. A support member as claimed in claim 1 in which the web fabric is nylon.

3. A support member as claimed in claim 1 or 2, in which the frame is notched, bent, or otherwise suitably indented to provide a plurality of attachment points for respective ones of said resilient members.

4. A support member as claimed in any preceding claim in which the resilient members are springs or loops of eleastomeric material.

5. A support member as claimed in any preceding claim in which the frame comprises three or four sides of a rectangle.

6. A support member as claimed in any of claims 1 to 5, in which the resilient members are attached to the web frame along two, three or four edges of the web.

7. A support member as claimed in any of claims 1 to 5 in which the resilient members are attached to the web frame along one edge of the web and the opposite edge of the web is attached to the seat frame.

8. A seat interior support member constructed and adapted to operate substantially as hereinbefore particularly described with reference to and as illustrated in the drawing accompanying the provisional specification.

9. A seat having an interior support member as claimed in any preceding claim.

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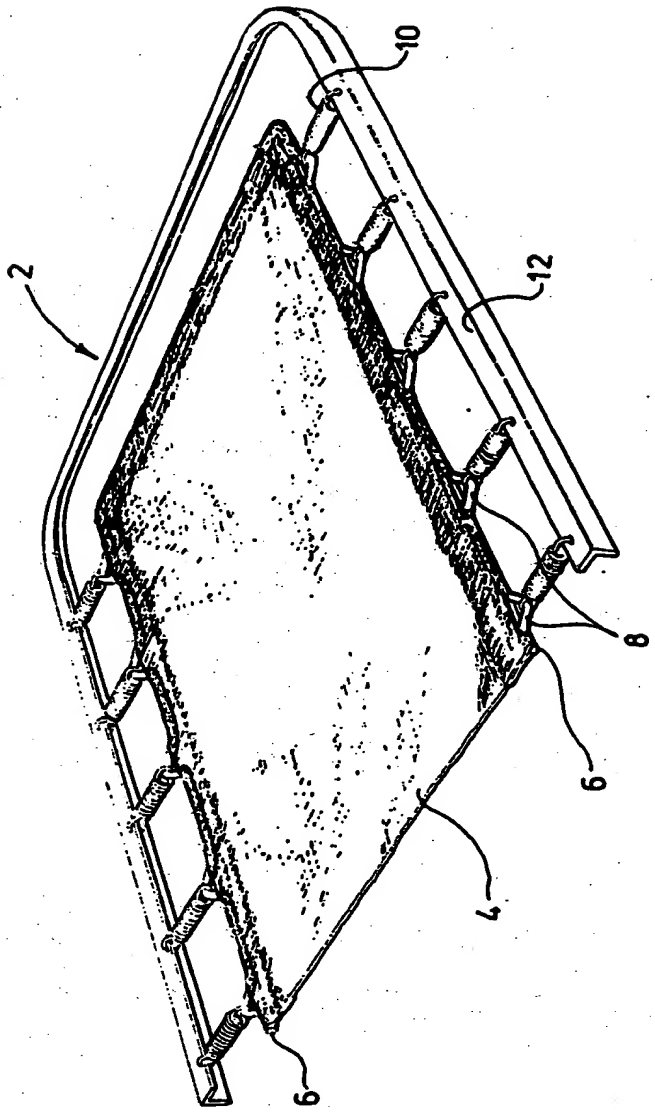
1599635 COMPLETE SPECIFICATION
1 SHEET This drawing is a reproduction of the Original on a reduced scale



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